

## REMARKS/ARGUMENTS

Reconsideration of this patent application is respectfully requested in view of the foregoing amendments, and the following remarks.

Claims 1 and 9 are in the application.

The Examiner rejected claims 1 and 9 under 35 U.S.C. §103 as being unpatentable over Bruzzese et al. in view of Schlenk et al. and further in view of Koulbanis. The Examiner also rejected claim 1 under 35 U.S.C. 102 as being anticipated by Bruzzese. Applicants respectfully traverse.

The arguments of the examiner are based on the assumption that a polyunsaturated fatty acid (PUFA) is the same as an essential fatty acid. This is not correct. A polyunsaturated fatty acid is a fatty acid in which more than one double bond exists within the representative molecule. That is, the molecule has two or more points on its structure capable of supporting hydrogen atoms not currently part of the structure.

Polyunsaturated fatty acids can assume a cis or trans conformation depending on the geometry of the double bond. Essential fatty acids (EFAs) are fatty acids that cannot be constructed within an organism from other components by any known chemical pathways; and therefore must be obtained from the diet. The term refers to those involved in biological processes, and not fatty acids which may just play a role as fuel. As many of the compounds created from essential fatty acids can be taken directly in the diet, it is possible that the amounts required in the diet (if any) are overestimated. It is also possible that they can be underestimated, as organisms can still survive in non-ideal, malnourished conditions.

There are two families of EFAs:  $\omega$ -3 (or omega-3 or n-3) and  $\omega$ -6 (omega-6, n-6.) Fats from each of these families are essential, as the body can convert one omega-3 to another omega-3, for example, but cannot create an omega-3 from scratch. They were originally designated as Vitamin F when they were discovered as essential nutrients in 1923. In 1930, work by Burr, Burr and Miller showed that they are better classified with the fats than with the vitamins. Essential fatty acids are a clearly defined subgroup of polyunsaturated fatty acids. None of

the references cited by the examiner discloses an essential fatty acid as shown in the following:

The argumentation of the Examiner on page 3 of the office action and on page 6 of the office action, that Bruzzese et al. discloses essential fatty acids in example 6 or in examples 1, 4, 5, 6, 7, 8, 9, and 10; columns 4 - 7 is wrong. Bruzzese discloses solely polyunsaturated fatty acids, but none of these polyunsaturated fatty acids is an essential fatty acid.

Any state of the art discloses 2:1 or 1:1 PUFA/CD complexes, but does not disclose 2:1 or 1:1 EFA/CD complexes. The present application solely claims 3:1 and 4:1 EFA/CD complexes. Therefore, the argumentation of the examiner based on 2:1 or 1:1 EFA/CD complexes as state of the art, that it is the burden of the applicant to show a novel or unobvious difference between the claimed product and the product of the prior art is unjustified, because no such state of the art exists.

Schlenk discloses that fatty acids with 17 and higher carbons produce 1:3 complexes with CD. The Examiner argues that the combination of Schlenk and Bruzzese make the present invention obvious because one of ordinary skill in the art would

have been motivated to use alpha CD to form a complex with essential fatty acids because the complexation increases solubility and alpha CD forms higher order complexes with longer chain fatty acids. This argumentation is not correct, because the aim of the present application is to achieve complexes with an increased stability and not complexes with an increased solubility of the complex. Schlenk discloses saturated fatty acids, whereas the present application is only related to essential fatty acids. Saturated fatty acids are per se stable, whereas essential fatty acids are not stable as discussed in the present application. Therefore, the problem to be solved by the 3:1 and 4:1 complexes does not exist for the materials complexed by Schlenk and a combination of Schlenk and Bruzzese cannot lead to a solution for the problem to be solved by the present application. Moreover, even if combined, such a combination does not lead to the present invention because Bruzzese does not disclose the complexation of EFAs, but only of PUFAs. A teaching which results in 1:1 and 2:1 complexes of PUFAs with CDs cannot anticipate a teaching which results in 3:1 and 4:1 complexes of EFAs with CD.

Koulbanis discloses the use of Vitamin F for the preparation of cosmetics and further discloses the problem of vitamin F with

oxidation. Thus, Koulbanis describes the state of the art for the use of Vit. F in cosmetics. The problems of this state of the art are resolved by the present application, and none of the cited references suggest that a complex of alpha CD with an essential fatty acid would solve these problems. Thus, the claimed solution is not rendered obvious by combination of Koulbanis with Bruzzese because Bruzzese does not disclose EFAs at all.

In fact, the claimed complexes significantly improve the usability of Vitamin F in cosmetics, in contrast to Koulbanis.

Enclosed as Appendix A is a Power Point presentation which shows:

- on slide 9: a scheme is given which shows a model which illuminates why only 3:1 and 4:1 complexes work well and why 1:1 and 2:1 complexes have only a very minor effect (only 3 or 4 CD cavities cover the long EFA molecule sufficiently to result in a positive effect).

- on slide 13: the thermostability of different complexes of linoleic acid (An EFA/Vitamin F) with CDs.

- on slide 14: the UV stability of a complexed (invention) and an uncomplexed (state of the art) linoleic acid

- on slide 17: the UV stability of complexed (invention) and uncomplexed (state of the art) linoleic acid in a cream.

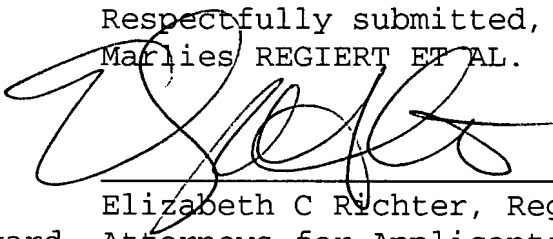
- on slide 18: the long-term stability of 1% linoleic acid as 4:1 complex (invention) and uncomplexed (state of the art) linoleic acid in a cream.

-on slide 19: the degradation behavior of complexed and uncomplexed linoleic acid is shown.

-on slide 20: the light stability of 1% linoleic acid as 4:1 complex (invention) and uncomplexed (state of the art) linoleic acid in color cosmetics is shown.

Accordingly, Applicant submits that the claims are patentable over the cited references, taken either singly or in combination. Early allowance of the amended claims is respectfully requested.

Respectfully submitted,  
Marlies REGIERT ET AL.



COLLARD & ROE, P.C.  
1077 Northern Boulevard  
Roslyn, New York 11576  
(516) 365-9802

Elizabeth C Richter, Reg. No. 35,103  
Attorneys for Applicants

Enclosure: Appendix A

I hereby certify that this correspondence is being deposited with the U.S. Postal Service as first class mail in an envelope addressed to: Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on November 5, 2007.

  
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Amy Klein